

FORMULA 4.261.7

$$\int_0^1 \ln^2 x \frac{1+x^2}{1+x^4} dx = \frac{1}{2} \int_0^\infty \ln^2 x \frac{1+x^2}{1+x^4} dx = \frac{3\sqrt{2}}{64} \pi^3$$